Statement of Work
Mechanical Dye Injection Systems

Introduction:

This statement of work (SOW) sets requirements to be met by any entity, commercial or governmental, interested in performing professional-level inspections of mechanical dye injection systems for compensation or reimbursement.

Section (§) 854 of The American Jobs Creation Act of 2004 (AJCA 04), PL 108-357, requires that diesel fuel and kerosene must be dyed to the specification in Treas. Regs. § 48.4082-1(b) by a mechanical dye injector system in order to be exempt from the tax imposed by Internal Revenue Code (IRC) § 4081. The implementation date was October 24, 2005, which was effectively one year after enactment of AJCA 04.

Temporary regulations were issued in April of 2005. Subsequently, implementation of the temporary regulations was put on hold by IRS Notice 2005-80 (see below.) The temporary regulations were crafted to allow facility operators as much flexibility as possible and still comply with the intent of the congress regarding tamper-proof dye injection systems.

Even with this flexibility, many of the provisions are still seen by industry as complicated, difficult, and involved. Industry is concerned about its ability to bring existing non-compliant dye injector systems up to compliance. Industry is also concerned that the variety of mechanical dye injector systems available and in use makes it difficult for the IRS to timely train its employees in the unique features of each system.

IRS does not possess in-house expertise or resources to timely and properly inspect, evaluate, and approve mechanical dye injector systems as required by Treas. Regs § 48.4082-1T(d). Therefore, IRS is exploring the use of outside technical expertise to perform the inspections and approvals required to fulfill the intent of congress.

Five months after the temporary regulations were issued, hurricanes Katrina and Rita struck the U.S. and implementation of the final mechanical dye injector regulations was postponed. This delay has not been lifted. See notes on transition rules, below, and see IRS Notice 2005-80.

Note: IRS Notice 2005-80 provides **transition rules** which effectively postpone implementation of the temporary regulations.

Transition rules: Treasury and the Service are concerned that many taxpayers, particularly those in areas affected by Hurricanes Katrina and Rita, may not be able to comply with the specific requirements of the temporary regulations by October 24. In addition, some of these requirements may be modified in final regulations. Accordingly,

the following transition rules will apply between October 24, 2005, and the date that is 180 days after the date of publication of final regulations in the Federal Register:

Potential vendors should be aware of the following requirements. These requirements generally describe the expectations of the deliverables.

Code Requirements:

Internal Revenue Code (IRC) section 4082(a)(2), added by § 854 of the American Jobs Creation Act of 2004 (AJCA 04), PL 108-357, specifies that, "the tax imposed by § 4081 shall not apply to diesel fuel and kerosene…which is indelibly dyed by mechanical injection in accordance with regulations which the Secretary shall prescribe…." This requirement is effective 180 days after final regulations are published in the Federal Register.

Regulations Requirements:

"§48.4082-1T Diesel fuel and kerosene; exemption for dyed fuel.
(d) *Mechanical injection requirements--**(1)** In general*--**(i)** Except as provided by paragraphs (d)(6) and (d)(7) of this section, fuel satisfies the dyeing requirements of this paragraph (d) only if the dye required by paragraph (b) of this section is combined with the fuel by means of a mechanical injection system that is approved by the Commissioner for use at the facility where the dyeing occurs. Such facilities include refineries, terminals, and blending facilities."

The regulations address in detail:

- IRS Approval

  Each mechanical injection system must be approved by the IRS for use at the facility where the dyeing occurs. Treas. Regs. § 48.4082-1T(d)(4) provides:

  "Commissioner's approval. Application for approval must be made in the form and manner required by the Commissioner. Rules similar to the rules of §48.4101-1(g) apply to the Commissioner's action on the applications. In determining whether to approve a mechanical injection system, the Commissioner will take into account the individual circumstances of each facility, including local fire and safety codes, to ensure that the cost of acquiring and maintaining the appropriate levels of security are reasonable for that facility."

  Congress feels that security of mechanical injection systems is "enhanced by the establishment of standards for making such systems tamper resistant." H.R. Rep. 108-548 (Part 1) at 329. Requiring IRS approval will ensure that every system is held to the same standards.

The regulations permit facility operators a large degree of flexibility in installing tamper resistant systems.

Since there are a variety of systems available, the fuel terminal community is concerned about the difficulty of timely educating IRS personnel in the different features of each system.

Transition Rule: "(1)(i) Any means of dyeing by mechanical injection will be deemed to meet the "mechanical injection" requirements of § 4082(a) if the dyeing system includes measures to resist tampering that are consistent with customary business security practices. Thus, mechanical injection systems at a terminal are not required to meet the specific requirements of § 48.4082-1T(d) and no penalty will be imposed under § 6715A(a)(2) for a failure to meet those specific requirements."

- Rack dyeing

Rack dyeing is defined as mechanically injecting dye to fuel as the fuel is delivered into the transport compartment of a truck, trailer, railroad car, or other means of nonbulk transfer. Treas. Regs. § 48.4082-1T(d)(2) provides:

"Rack dyeing. The Commissioner will approve a mechanical injection system used for rack dyeing only if--
(i) The system has calibrated devices that accurately measure and record the amount of dye and the amount of fuel that is delivered so that the resulting dyed fuel satisfies the requirements of paragraph (b) of this section;
(ii) The system has automatic shut-off devices that are activated in the case of a system malfunction;
(iii) The system is secured by--
(A) Unbroken seals that are issued, installed, and maintained by the terminal operator and that secure the measurement devices, shut-off devices, and other access points to the injection system and that bear unique identifying numbers or codes that provides adequate assurance against duplication;
(B) A secured container that controls access to the measurement devices, shut-off devices, and other access points and is secured by an unbroken seal issued, installed, and maintained by the terminal operator; or
(C) Any system that provides at least the level of security provided by the systems described in paragraphs (d)(2)(iii)(A) and (B) of this section; and
(iv) The operator of the facility has written procedures in place for complying with its duty, described in (d)(5) of this section, to maintain the system's security standards."

Transition rules: "(2) A mixture containing diesel fuel or kerosene will be treated as being dyed by mechanical injection if--

(i) The mixture consists of at least 80 percent diesel fuel or kerosene and the remaining portion is a liquid, such as biodiesel, ("other liquid") that is not diesel fuel or kerosene;
(ii) The diesel fuel or kerosene in the mixture was dyed by mechanical injection;
(iii) The diesel fuel or kerosene and the other liquid are combined at a facility that is not a terminal; and
(iv) The mixture meets the specifications of § 48.4082-1(b) (relating to dye type and concentration) when it is removed from the facility where the diesel fuel or kerosene and the other liquid are combined."

- In-tank dyeing

In-tank dyeing is defined as mechanically injecting dye to fuel as the fuel is in a bulk storage tank, being delivered to a bulk storage tank, or being delivered into a pipeline or vessel.

IRS may approve in-tank dyeing. The requirements for ensuring the security and reliability of in-tank dyeing differ from the requirements for ensuring the security and reliability of rack-dyeing due to the inherent differences between the two systems and the lack of general access to a bulk storage facility. Treas. Regs. § 48.4082-1T(d)(3) provides:

"In-tank dyeing. The Commissioner will approve a mechanical injection system used for in-tank dyeing only if the operator of the facility has a secure and reliable system in place to--
(i) Measure the volume of fuel to be dyed;
(ii) Calculate the volume of dye necessary to meet the requirements of paragraph (b) of this section;
(iii) Add the required volume of dye by a mechanical injection system that meters the volume of the dye so that the resulting dyed fuel satisfies the requirements of paragraph (b) of this section;
(iv) Test the dye concentration of the fuel upon completion of the dyeing;
(v) Maintain records documenting the actions and the individuals involved with the requirements of paragraphs (d)(3)(i), (ii), (iii), and (iv) of this section; and
(vi) Secure the system so that the dye concentration in the fuel is not reduced while the fuel is under the control of the system operator."

- Constant Dye Concentration.

Dye concentration requirement of Treas. Regs. §48.4082-1(b) does not have to be met continuously during the dyeing process.

However, the system must dye fuel so that the resulting dyed fuel satisfies the concentration requirement at the end of the dyeing process.

Current mechanical dye injection systems do not inject dye at a constant rate through the loading process. To avoid contamination issues with other products loaded through the same loading apparatus, dye injection is weighted to perform "over-dyeing" during the mid-range of the loading cycle. For a measured period at the beginning and end of the loading process, the product passing through the loading arm will be free of dye. However, the final product in the cargo tank compartment must meet the dye specification in Treas. Regs. §48.4082-1(b) of 3.9 lbs of dye per 1,000 barrels of diesel fuel or kerosene.

A facility is not required to add dye to any fuel that already meets the concentration standards when the fuel is received at that facility.

Every mechanical dye injection system must have an automatic shut off device that is activated in the event of a system malfunction.

- Maintaining Security Standards

A properly administered set of seals and/or lockboxes that prevent unauthorized/undetected access to the vulnerable points of the dye injection system is required.

The seal and lockbox system described in the temporary regulations satisfies that requirement. Therefore, the regulations allow the IRS to approve any system that provides at least the level of security provided by the seal and lock box systems described in the temporary regulations.

The regulations also provide a visual inspection requirement that must be performed and documented by the facility operator.

Treas. Regs. § 48.4082-1T(d)(5) provides:

"*Duty of the operator of a mechanical injection system to maintain the system's security standards*--**(i)** Each operator of a mechanical injection system must promptly notify the Commissioner whenever the system is permanently removed from service, manual dyeing is performed, or the operator has reason to suspect that its system has been tampered with. This notification shall be made in the manner specified by the Commissioner.
(ii) Each operator of a mechanical injection system that employs the security system described in paragraph (d)(2)(iii)(A) or (B) of this section must--
(A) Maintain a record for each seal, including its identifying number or code, the location of the seal, the date(s) on which the seal was issued and installed, and the reason for the installation;
(B) Visually inspect each installed seal not less than once during every 24 hour period (excluding any 24 hour period that the facility is not staffed) to ascertain that each seal and lock mechanism, if applicable, has not been physically altered;

(C) Check the identifying number or code for each seal against the records maintained by the terminal operator no less frequently than once during each seven day period and record each inspection and verification;
(D) Maintain a record of each seal that has been replaced to include the seal number or code, the date the seal was issued, the location of the seal, the date the seal was replaced, and the reason the seal was replaced;
(E) Promptly destroy and replace seals that have been removed from the system;
(F) Restrict access to unused seal inventory to individuals specifically designated by the operator and maintain a record of such individuals;
(G) Maintain a record of each installation, inspection, and destruction described in this paragraph (d)(5), including the name of the individual who conducts the installation, inspection, or destruction; and
(H) Make available for the Commissioner's immediate inspection the seals and records described in this paragraph (d)(5).
(iii) Each operator of an in-tank dyeing system or a system that employs a security system described in paragraph (d)(2)(iii)(C) of this section must perform the inspections, keep the records, and make the reports that are prescribed by the Commissioner."

During the initial facility approval process, the IRS will inform the facility operator of the manner of the required notification. The purpose of the notification requirement is to inform the IRS of the occurrence of an event rather than a request for permission to perform an action.

- Malfunctions

Treas. Regs. § 48.4082-1T(d)(7) provides:

"A mechanical dye injection system has *malfunctioned* when it fails to dye fuel to the requirements of paragraph (b) of this section. However, a system that is shut down for routine maintenance or inspection has not malfunctioned."

"*Manual dyeing* means any type of dyeing other than the dyeing described in paragraphs (d)(2) and (d)(3) of this section." (The reference is to rack or in-tank dyeing by an approved mechanical dye injection system.)

"*Malfunctions.* In the event of a system malfunction, fuel satisfies the dyeing requirements of paragraphs (d)(2) and (d)(3) of this section if--
(i) The fuel is dyed by manual dyeing at a facility that has a dye injection system that is approved by the Commissioner and such system is out of service because of a malfunction;
(ii) The interval between the first occurrence of manual dyeing and the last does not exceed 72 hours (excluding any Saturday, Sunday, or legal holiday that is within the interval);

(iii) The facility operator has reported the malfunction to the Commissioner (in the manner prescribed by the Commissioner) before the first occurrence of manual dyeing; and
(iv) The facility operator keeps records for IRS inspection describing the reason for the malfunction, the volume of tax-exempt fuel dispensed, the volume of dispensed dye, the operator on duty at the time of the malfunction, the identity of the recipient of the dyed fuel, and the steps taken to put the mechanical injection system in service."

Transition rule: (ii) In the case of a malfunction of a system described in section (b)(1)(i) of this section, fuel dyed by manual dyeing will be deemed to meet the requirements of § 4082(a) if the interval between the first occurrence of manual dyeing and the last does not exceed 72 hours (excluding any Saturday, Sunday, or legal holiday that is within the interval) and the facility operator keeps adequate records describing the circumstances surrounding the malfunction. The Service may withdraw an operator's right to dye by manual dyeing if the Service cannot verify the accuracy of such dyeing.

- Sales and entries of taxable fuel

Treas. Regs §48.4082-1(d)(8) provides:

Sales and entries. For purposes of determining whether tax is imposed by section 4081 on a sale or entry of fuel, such fuel satisfies the dyeing requirements of this paragraph (d) only if the dye required by paragraph (b) of this section is combined with the fuel before the sale or entry and the seller or enterer has in its records evidence (such as a certificate from the terminal operator providing the fuel) establishing that the dye was combined with the fuel by means of a mechanical injection system. Thus, for example, fuel that is entered into the United States by means of nonbulk transfer (such as a railroad car) does not satisfy the requirements of this paragraph (d) if the required dye and marker are combined with diesel fuel or kerosene after the fuel has been entered into the United States.

Tasks and Deliverables:

When a contract issues, the successful bidder shall timely perform the stated tasks and timely deliver all deliverables.

When a contract issues, the successful bidder shall use a staff of degreed engineers and other documented/certified technical-level employees to perform the inspections, evaluations, training, and documentation required by the tasks and deliverables.

Tasks:

1. Identify all types of mechanical dye injection systems available to North American refineries, terminals, and blending facilities.

2. Evaluate each system identified in item one (1) above and determine:

    - Out of the box, does it comply with all the requirements set out in Treas. Regs § 48.4082-1T(d)?
    - If not compliant when shipped from the manufacturer, can it be upgraded to comply?
        - If so, what specific changes are necessary for compliance?
        - If not, highlight appropriate areas of the matrix (below) to emphasize that this system fails.
    - Evaluations may involve (but are not limited to) visits to manufacturers, visits to field locations to observe units in use, on-line research, and/or a combination of these.

3. Build a matrix using the information in items one (1) and two (2) of each type of available mechanical dye injection system and how it complies (or not) with each requirement of the regulations.

4. Compare entries on the *IRS-supplied list of equipment at users** to the appropriate equipment-type on the matrix to determine if each user's system is compliant.

5. Recommend approval/disapproval on each facility:
    - Systems in full compliance (usually newer systems)-recommend IRS approval.
    - If doubt exists or the system is older, contact the facility operator by telephone or email and get enough information to make a determination. If necessary, a visit to the site may be required to make an on-scene determination. Based on the on-site findings, recommend approval/disapproval to IRS.

6. Work with operators of non-compliant systems to assist them in reaching compliance.

7. Perform random visits to facilities with previously approved mechanical dye injection systems to verify continued compliance.

*Note: IRS to provide lists of type of mechanical dye injector system in use (if any) at each U. S. refinery, terminal and blending facility. This will be approximately 14,200 separate rows of data.

Deliverables: When a contract issues,

1. Within 30-days after contract award, provide a stratified list of mechanical dye injection systems available in the North American market showing:
   - Acceptable compliant systems as shipped from the manufacturer.
   - Systems that can be modified to comply after installation and use.
   - Systems that cannot be modified to achieve compliance.

2. Within 30-days after contract award provide a list of current facilities with mechanical dye injector systems coded to show level of compliance.

3. Within 30-days after contract award provide a separate list of non-compliant dyeing facilities.

4. As each determination is made, but not later than one week after, provide an individual approval recommendation for each blending facility that has a compliant mechanical dye injection system or brings their non-compliant system into compliance.

5. Each 30 days starting 60-days after contract award provide a random schedule for the next 30-days visits to previously approved facilities to assure the level of compliance is maintained.